

**Appendix B -- Firestopping****GUIDE SPECIFICATION**

The following Guide Specification is intended to be typed verbatim into the contract specification. An asterisk beside an item in the following indicates an item that is variable for each project. The handling of such items will be decided by consultation between the Project Manager and The Consultant. The Project Manager is expected to modify other portions as necessary to accurately reflect conditions of the project.

**SECTION 07270****FIRESTOPPING****PART 1 GENERAL INFORMATION AND REQUIREMENTS****1.1 Related Documents**

- A. Drawings and General Conditions, Amendments to the General Conditions, Special Conditions, and Division 1 - General Requirements, govern this section.

**1.2 Description of Work:**

- A. Provide firestopping and smoke seals as indicated on the drawings as well as the following areas, including:
- B. All openings in fire-rated floors and wall assemblies, both blank (empty): and those accommodating penetrating items such as cables, conduits, pipes, ducts, etc.
- C. Curtain wall openings between exterior walls and connecting floor assemblies.
- D. Expansion joints in fire-rated walls and floors.
- E. Openings at each floor level in shafts or stairwells.

**1.3 Related Sections:**

Coordinate work of this Section with the work of related Sections.

- A. Section 03300 - Concrete Work
- B. Section 04200 - Masonry Work
- C. Section 07900 - Joint Sealers
- D. Section 09250 - Drywall
- E. Division 15 and 16 Sections: Mechanical, Plumbing and Electrical Work.

**1.4 References:**

- A. Seattle Building Code - Latest Edition
- B. Seattle Fire Code - Latest Edition
- C. U.L. Fire Resistance Directory "Through Penetration Firestop Devices and Systems" - Latest Edition.

**1.5      Quality Assurance:**

Firestopping materials shall conform to Flame (F) rating as required by local building code and as tested by nationally accepted test agencies per ASTM E-814 or UL 1479 fire tests. The Flame rating must be a minimum of one (1) hour, but not less than the fire resistance rating of the assembly being penetrated.

**1.6      Submittals:****A.      Shop Drawings:**

1.      Submit shop drawings showing each condition requiring penetration seals in dictating proposed UL systems materials, anchorage, methods of installation, and actual adjacent construction.
2.      Submit a copy of UL illustration of each proposed system or manufacturer-approved illustration. (See application schedule).

**B.      Manufacturer's Data**

1.      Submit copies of manufacturer's specifications, recommendations, installation instructions, and maintenance data for each type of material required. Include letter indicating that each material complies with the requirements and is recommended for the applications shown.

**1.7      Delivery, Storage, and Handling:**

- A.      Deliver materials undamaged in manufacturer's unopened containers, identified with brand, type, grade, and UL label where applicable.
- B.      Coordinate delivery with scheduled installation date to minimize storage time at site.
- C.      Store materials in clean, dry, ventilated location. Protect from soiling, abuse, and moisture. Follow manufacturer's instructions.

**1.8      Project Conditions:****A.      Existing Conditions:**

1.      Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.
2.      Proceed with installation only after penetrations of the substrate and supporting brackets have been installed.

**B.      Environmental Requirements:**

1.      Provide adequate ventilation if using solvent.
2.      Provide forced air ventilation during installation, if required by manufacturer.
3.      Keep flammable materials away from sparks or flame.
4.      Provide masking and drop cloths to prevent contamination of adjacent surfaces by fire stopping materials.



1.9 Sequencing and Scheduling:

It is the responsibility of the Contractor to identify all locations requiring firestopping and coordinate installation of the firestopping.

**PART 2 PRODUCTS**

2.1 Acceptable Manufacturers:

Subject to compliance with requirements, provide products of one of the following manufacturers as defined in the Systems and Applications Schedule in Part 3 of this section.

2.2 Materials:

- A. Provide materials classified by UL to provide fire barrier equal to time rating of constriction being penetrated.
- B. Provide 100% asbestos free materials that comply with applicable codes and have been tested in accordance with UL 1479 or ASTM E-814.

**PART 3 EXECUTION**

3.1 Examination:

Inspect and verify that the surface and condition of the substrates have no defects or errors that would interfere with the installation of the firestopping materials. Notify the Project Manager of any defects or errors in surface conditions. Do not proceed with work until all unsatisfactory conditions have been corrected. Installation of firestopping shall constitute the Contractor's acceptance of surfaces and conditions of substrates.

3.2 Preparation:

Clean surfaces to be in contact with penetration seal materials, of dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting, adhesion, or the required fire resistance.

3.3 Installation:

- A. Install penetration seal materials in accordance with printed instructions of the UL Building Materials Directory, manufacturer's instructions, or architectural detail as indicated on the application schedule.
- B. Ensure that anchoring devices, back-up materials, clips, sleeves, supports and other materials referenced by the application schedule are installed.
- C. Install firestop with sufficient pressure to properly fill and seal openings to ensure an effective smoke seal.
- D. Where floor openings without penetrating items are more than four inches in width and subject to traffic or loading, install fire stopping materials capable of supporting same loading as floor.

3.4 Field Quality Control:



- A. Immediately notify the Project Manager if the specified firestopping systems cannot meet the requirements of the specification.
- B. All areas of work must be accessible until inspection by the Seattle Fire Department Fire Marshall. Correct unacceptable firestops and provide additional inspection to verify compliance with this specification at no additional cost.

### 3.5 Adjusting and Cleaning:

Clean spills of liquid components. Neatly cut and trim materials as required. Remove equipment, materials and debris, leaving area in undamaged, and clean condition.

### 3.6 Systems and Applications Schedule:

<u>CONSTRUCTION CONDITION</u>	<u>MANUFACTURER/PRODUCT</u>	<u>INSTALLATION SPECIFICATION*</u>
A. Metal pipe or conduit through framed walls.	Bio Fireshield/BFS100	Architectural Detail 1
B. Metal pipe or conduit through concrete & floors.	Bio Fireshield/BFS200	Architectural Detail 2 masonry walls and
C. Insulated metal pipe through framed walls.	3M/FS195, CP25N/S	U.L. System No. 147
D. Insulated metal pipe through concrete & masonry walls and floors	3M/See appropriate listing	U.L. Systems Nos. 91,152,203
E. Plastic pipe through framed walls	3M/FS195, CP25N/S,RCI OR Bio Fireshield/BFS1-9, BCF Series	U.L. System No. 148  Manufacturers Specification
F. Plastic pipe through concrete & masonry walls and floors	3M/CS195, FS195, CP25N/S, CP25S/L OR Bio Fireshield/BFS1-9 BCF Series	U.L. System No. 64  Manufacturer's Specification
G. Cable tray through concrete & masonry walls and floors. Framed walls OR Alternately, terminate cable tray (designer modify)	Bio Fireshield/K10  Bio Fireshield/K10  Bio Fireshield/BFS100	U.L. System No. 40,41  Architectural Detail 3 (1 hr.) Architectural Detail 4 prior to firewall
H. Telephone, fiber optic, and other small misc. OR	Bio Fireshield/ BFS100, BFS200	U.L. System 247



conductors through  
framed walls.

3M/ CP25N/S

U.L. System 149

CONSTRUCTION CONDITION

MANUFACTURER/PRODUCT

INSTALLATION  
SPECIFICATION\*

I. Control joints,  
wall/floor joints  
framed, concrete, and  
masonry.

Bio Fireshield/  
BFS100, BFS200  
OR  
3M/ CP25N/S, CP25S/L

Manufacturers  
specifications

J. Curtain Wall/  
Construction Gap

Bio Fireshield/  
BFS100, BFS200  
OR  
3M/ CP25N/S, CP25S/L

Manufacturers  
specifications

K. Non-insulated HVAC  
Ducts

Bio Fireshield/  
BFS100, BFS200  
OR  
3M/ CP25N/S, CP25S/L

Manufacturers  
specifications

L. Seismic and other  
large building  
joints

Any U.L. Listed  
system

\* See U.L. Listing or manufacturer's specifications for associated components not listed (i.e. sleeves, collars, mineral wool, etc.)

Insulated cable, bus ducts, glass pipe and other penetrations and construction conditions not listed above shall be firestopped with an approved U.L. System as defined by the Fire Resistance Directory.

**End of Appendix 2 - B**